35 USC § 103(a) Rejection - Claim 2

The Examiner first rejected claim 2 under 35 USC 103(a) as being unpatentable over US Patent 6,044343 (Cong et al), of record, in view of US Patent 5,704,004 (Li et al) and in further view of US Patent 5,826,221 (Aoyagi), also of record. In particular, the Examiner cited Cong et al. as teaching "a method of generating speech coding parameters in a bitstream based front end of a speech recognition system", with Li et al. cited as disclosing "a method for defining a steady state threshold T" and Aoyagi as teaching "a method for defining a threshold based upon the difference in LSP parameters in adjacent subframes". The Examiner concluded that "it would be obvious to one of ordinary skill in the art of speech processing to modify the teachings of the combination of Cong et al. in view of Li et al. with using an adjacent frame to cure frame error [Aoyagi] because it would advantageously generate a more accurate representation of speech".

Applicant respectfully disagrees with the Examiner's characterization of the cited references, as well as with the conclusion that the combination renders obvious the subject matter of independent claim 2. First, there is no suggestion or disclosure in Cong et al. regarding "measuring the Euclidean distance between the line spectrum pairs (LSPs) of *adjacent frames*" [emphasis added], as defined by claim 1. Cong et al. merely discusses the use of the Euclidean distance measurement to find the "best match" between a current speech frame and "stored reference patterns" (see, for example, column 2, beginning at line 48).

The Li et al. reference cited by the Examiner, while in the technology of speech communication, is associated with the creation of linear predictive coding (LPC) coefficients at the transmission side of a communication system. As part of the "compression" process, a threshold is used to discard unnecessary data prior to transmission. There is no disclosure or suggestion in Li et al. regarding "defining a steady-state threshold T *associated with an acceptable difference between the LSPs of the adjacent frames*" [emphasis added], as required in rejected claim 2. There is no generation or measurement of "line spectrum pairs" (LSPs) in the cited Li et al. reference.

Lastly, applicant asserts that the cited Aoyagi reference is directed to adaptively selecting particular interpolation and/or quantized values to use based on "threshold" information, where the "threshold" information is not associated with the measured

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Euclidean distance between "adjacent frames", which is the subject matter of the present invention as defined by rejected independent claim 2.

Thus, based on these differences between the cited references and independent claim 2, applicant asserts that the combination does not render obvious the teaching of the present invention and that claim 2 remains allowable over this combination. Applicant thus respectfully requests the Examiner to reconsider this rejection and find claim 2 to be in condition for allowance.

35 USC § 103(a) Rejection - Claims 4,5

The Examiner next rejected claims 4 and 5 under 35 USC 103(a) as being unpatentable over the above combination, in further view of US Patent 6,230,124 (Maeda). The Examiner cited Maeda as teaching particular methods of assigning bits (most important vs. least important) in determining frame error. In response, applicant cannot find any teaching in Maeda regarding the subject matter of either claim 4 or claim 5. Claim 4 is directed to further defining the step of "detecting an error" as using a process where "an erasure is declared when the bits most sensitive to error within a frame are determined to be in error". In contrast, Maeda merely discloses the formation of a cyclic redundancy check (CRC) using the bits "important relative to human hearing" - not necessarily the bits "most sensitive to error", as required by claim 4.

Rejected claim 5 further depends from claim 4, and defines these bits as including "the line spectrum pair information bits and the gain information bits". While Maeda does include both LSP information and gain index information as "examples of important bits", it is from the point of view of "important for the hearing sense". In contrast, the subject matter of the present invention regards this type of information as "important" from the viewpoint as being most sensitive to error - and, therefore, will provide a higher quality of error detection.

Based on these differences, as well as the above discussion regarding claim 2, applicant asserts that claims 4 and 5 are allowable over the cited references.

In summary, applicant believes that all claims 2, 4 and 5 are in condition for allowance over the cited references, and thus respectfully requests the Examiner to

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review the rejections and agree that the case is now in condition for allowance. Applicant thus respectfully requests the Examiner to allow this case to pass to issue. If for some reason or other the Examiner does not agree that the case is ready to issue and that an interview or telephone conversation would further the prosecution, the Examiner is invited to contact applicant's attorney at the telephone number listed below.

Respectfully submitted,

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